

AMENDMENTS TO THE CLAIMS

Upon entry of the present Response, the status of the claims will be as is shown below. The claims in this listing will replace all prior versions, and listings, of claims in the application.

Claims 1-20 (Cancelled)

21. (New) An accumulator comprising:

a body having a space therein;

an inlet tube extending downwardly into the body from a predetermined external point at a top of the body and including an end positioned at an inner lower portion of the body, such that a refrigerant flows into the body;

an outlet tube extending upwardly into the body from a predetermined external point at a bottom of the body and including an end positioned at an inner upper portion of the body, such that the refrigerant is discharged from the body; and

at least one heater provided in the body, for heating the refrigerant.

22. (New) The accumulator of claim 21, wherein the inlet tube extends in parallel with the outlet tube.

23. (New) The accumulator of claim 21, wherein the heater is provided on an inner bottom of the body.

24. (New) The accumulator of claim 23, wherein a height of the heater is not more than 70% of the entire body height.

25. (New) The accumulator of claim 21, wherein at least two heaters are provided.

26. (New) The accumulator of claim 25, wherein each heater has a different heating capacity.

27. (New) The accumulator of claim 25, wherein the heaters are separately turned on and off.

28. (New) An air conditioning system comprising:

at least one compressor that compresses a refrigerant at a high pressure and that discharges the compressed refrigerant;

a flow control valve connected to the compressor, for controlling a flow direction of the refrigerant according to an operation mode;

a plurality of heat exchangers respectively positioned indoor and outdoor and connected to the flow control valve;

at least one expansion device provided in a refrigerant tube that connects the heat exchangers; and

an accumulator that temporarily stores the refrigerant passing through the heat exchangers, and that is connected to an inlet of the compressor such that the gas phase refrigerant is provided to the compressor, said accumulator comprising:

a body having a space therein;

an inlet tube, extending downwardly into the body from an external point at a top of the body, and including an end positioned at an inner lower portion of the body, such that a refrigerant flows into the body;

an outlet tube, extending upwardly into the body from an external point at a bottom of the body, and including an end positioned at an inner upper portion of the body, such that the refrigerant is discharged from the body; and

at least one heater provided in the body, for heating the refrigerant.

29. (New) The air conditioning system of claim 28, further comprising:

a plurality of check valves, each provided between the outlet of one of the at least one compressors and the flow control valve, such that the refrigerant is prevented from flowing into the outlet of the compressor.

30. (New) The air conditioning system of claim 28, wherein each of the compressors has a different capacity.

31. (New) The air conditioning system of claim 28, wherein the inlet tube extends in parallel with the outlet tube.

32. (New) The air conditioning system of claim 28, wherein the heater is provided on an inner bottom of the body.

33. (New) The air conditioning system of claim 32, wherein the height of the heater is not more than 70% of the entire body height.

34. (New) The air conditioning system of claim 28, wherein at least two heaters are provided.

35. (New) The air conditioning system of claim 34, wherein each heater has a different heating capacity.

36. (New) The air conditioning system of claim 34, wherein the heaters are separately turned on and off.

37. (New) An accumulator comprising:

a body having a space therein;

an inlet tube extending into the body through a top of the body for introducing refrigerant into the body, and including an end positioned at an inner lower portion of the body; and

an outlet tube extending into the body through a bottom of the body for exhausting a gas phase refrigerant from the body, and including an end positioned at an inner upper portion of the body.

38. (New) The accumulator as claimed in claim 37, wherein the end of the outlet tube is positioned higher than the end of the inlet tube so as to prevent a liquid phase refrigerant introduced into the body through the inlet tube from flowing into the outlet tube directly.

39. (New) The accumulator as claimed in claim 37, further comprising:
a heater provided on the bottom of the body,
wherein the heater heats a liquid phase refrigerant gathered in the inner lower portion of the body.

40. (New) An air conditioning system comprising:
a compressor that compresses and pumps refrigerant;
an indoor heat exchanger that communicates with the compressor and conducts a heat exchange between the refrigerant and the indoor air;
an outdoor heat exchanger that communicates with the compressor and conducts a heat exchange between the refrigerant and the outdoor air; and
an accumulator that communicates with the compressor and heat exchangers, said accumulator comprising:
a body having a space therein;

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an inlet tube extending into the body through a top of the body, said inlet tube introducing refrigerant into the space and including an end positioned at an inner lower portion of the body; and

an outlet tube extending into the body through a bottom of the body, said outlet tube exhausting a gas phase refrigerant from the space and including an end positioned at an inner upper portion of the body.